

WHAT IS CLAIMED IS:

WJH 1. A process for manufacturing a composite sheet capable of elastic stretch and contract in one direction by continuously feeding, in the one direction, a first web capable of elastic stretch and contraction and having a top surface and a bottom surface, continuously feeding a second web capable of inelastic extension and composed of thermoplastic synthetic fibers on at least one surface of the first web and joining the first and second webs in an intermittent manner along the one direction; said manufacturing process including the steps of:

(a) feeding said first web continuously in the one direction and extending the first web in the one direction within the range that permits elastic stretch and contraction of the first web;

(b) allowing the extended first web to retract by an elastic contraction force of the web; and

(c) superimposing said second web on at least one surface of the first web after retraction and joining the first and second webs in an intermittent manner along the one direction.

2. The process of Claim 1 further including, subsequent to the step (c), the following steps:

- 15 -

Suba⁴

(d) a secondary extension step wherein the joined first and second webs are extended in the one direction within the range that permits elastic stretch and contraction of the first web; and

5 (e) a secondary contraction step wherein the extended first and second webs are allowed to retract by the action of an elastic contraction force of the first web.

3. The process of Claim 2 wherein the thermoplastic
10 synthetic fibers in said second web are engaged with each other by mechanical entanglement or fusion bond and, in the step (c), the fibers are free freed from the engagement so that they are individualized.

15 4. The process of Claim 1 wherein the second web is joined to top and bottom surfaces of the first web, and the second webs respectively joined to the top and bottom surfaces of the first web are distinguished from each other in any of properties, including a basis weight and density of the web, a type of the
20 thermoplastic synthetic resin, and a diameter and length of the fibers.

5. The process of Claim 1 wherein said first web is either

FOI 2000-262656

- 16 -

Suba in the form of a non-woven or woven fabric capable of elastic stretch and contraction and composed of thermoplastic synthetic fibers or in the form of a film capable of elastic stretch and contraction and made of a thermoplastic synthetic resin.

5

6. The process of Claim 1 wherein said thermoplastic synthetic fibers in the second web are continuous, long or short fibers.

09044476-083101